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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,544	10/07/2003	Vladimir Fridman	P-1187	4997

7590 08/22/2005

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EXAMINER

NGUYEN, CAM N

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 08/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/680,544

**Applicant(s)**

FRIDMAN ET AL.

**Examiner**

Cam N. Nguyen

**Art Unit**

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on June 06, 2005 (an amendment & RCE).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-13, 15-20, 24, 27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-13, 15-20, 24, & 27-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### **Status of Continued Examination Application (RCE)**

1. A request for continued examination (RCE) under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after the final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 06/06/2005 has been entered.

### **Response to Amendment**

2. Applicants' amendment and remarks, filed June 06, 2005, has been made of record and entered. Claims 1, 5, 13, 15, & 24 have been amended. Claims 9, 14, 21-23, & 25-26 have been canceled. Claim 28 has been added.

Claims 1-8, 10-13, 15-20, 24, & 27-28 are currently pending in the application and under consideration.

### **Terminal Disclaimer**

3. The terminal disclaimer filed on June 06, 2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of patent granted on application serial nos. 10/047,598 and 10/290,780 have been reviewed and are accepted. The terminal disclaimer have been recorded.

**Claim Objections**

4. Claims 13 & 24 are objected to because of the following informalities:
    - A. In claim 13, second to the last line, "an" before "sodium oxide" should be deleted.
    - B. In claim 24, fourth to the last line, "an" before "sodium oxide" should be deleted.
- Appropriate correction is required.

**Claim Rejections - 35 USC § 112 (Second Paragraph)**

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
6. Claims 13, 24, 27, & 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 13 & 24, the proper Markush terminology is --selected from the group consisting of sodium, potassium, and mixture thereof--.

**Claim Rejections - 35 USC § 103**

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-2, 5-8, 10-13, & 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmermann et al., "hereinafter Zimmermann", (US Pat. 5,378,350) taken together with Kerby et al., "hereinafter Kerby", (US Pat. 5,258,567).

Zimmermann discloses a catalyst comprising chromium and aluminum oxides, at least one cesium metal compound promoter in an amount of 0.1 to 10% by weight of the catalyst, calculated as  $\text{Cs}_2\text{O}$ , and at least one zirconium metal compound as additional promoter in an amount of 0.1 to 15% by weight of the catalyst, calculated as  $\text{ZrO}_2$  (see col. 7, claim 1). Zimmermann further discloses that the catalyst comprising an  $\text{Al}_2\text{O}_3$  support with 10 to 50% by weight of chromium oxide, calculated as  $\text{Cr}_2\text{O}_3$ ; 0.1 to 5% by weight of a zirconium compound, calculated as  $\text{ZrO}_2$ ; and 0.1 to 10% by weight of a cesium compound, calculated as  $\text{Cs}_2\text{O}$  (see col. 7, claim 2). Zimmermann also discloses that the catalyst can contain additional promoters such as scandium, yttrium, lanthanum, titanium, zirconium or hafnium, individually or in combination (see col. 2, ln 21-25). Zimmermann discloses that sodium, potassium, calcium or barium compounds are suitable promoters from the group of alkali or alkaline earth compounds with cesium being more preferably promoter compound for providing a better result and more effective catalyst (see col. 2, ln 12-19).

Regarding claim 1, applicants amended the claims changing from "comprising" to "consisting essentially of" language is noted. The "consisting essentially of" language while limits the claim to specified ingredients or components and those that do not affect the basic and novel characteristics of a composition. See *Ex parte Davis et al.*, 80 USPQ 448. When applicants contend that modifying components in the reference

composition are excluded by the recitation of the "consisting essentially of", applicants have the burden of showing the basic a novel characteristics of their composition, i.e., a showing that the introduction of these components would materially change the characteristics of applicants' composition. While applicants are excluding other metal component, such as cesium compound, applicants have not yet shown that the additional material in the catalyst composition of Zimmermann is materially affects applicants' catalyst composition.

Regarding claim 13, upon further review of Zimmermann reference, it appears that while cesium compound is a more preferable promoter compound for his catalyst composition, other alkali or alkaline earth metal compounds (which includes sodium, potassium, and magnesium the applicants claiming) can also be used as a promoter as well. In Example 1 of the Zimmermann reference, it shows the final catalyst composition of catalyst 1 prepared contains an alumina support, chromium, zirconium, and potassium promoter. In Example 2, same as catalyst 1, but with sodium promoter. The concentrations of the potassium and sodium promoters in examples 1 and 2 are 2% wt., respectively.

Thus, the only difference between the claims and the Zimmerman reference, is that Zimmerman does not disclose using the magnesium and alkali metal promoter (sodium or potassium) together, and he does not disclose the magnesium concentration either. It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have added magnesium to the catalyst of Zimmermann in order to achieve an improved catalyst having promoted activities because it is known

Art Unit: 1754

as useful catalyst promoter (or modifier), as evidenced by Kerby (see Kerby at col. 12, claims 12-14).

The claimed chromium and zirconium concentrations are met by the teachings of the reference since they fall within the disclosed ranges (see above).

Regarding claim 5, it is considered the process limitation in the claim regarding how the carrier material is made has no bearing on the patentability of the claimed catalyst. Since the disclosed carrier material is the same as the claimed carrier, thus provides for the same catalyst.

With respect to the "chromium material" listed in claims 6 & 8, it is considered that the claimed chromium materials as listed is process limitation. Since the instant claims are called for "a catalyst", the process limitation as being claimed has no bearing on the patentability of the claimed catalyst.

Regarding claim 28, Zimmerman does not disclose the claimed alkali metal promoter concentration. It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have optimized the alkali metal promoter concentration in Zimmerman in order to achieve an effective catalyst because it is a result effective variable, in view of In re Boesch.

9. Claims 3-4 & 15-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmermann et al., "hereinafter Zimmermann", (US Pat. 5,378,350) taken together with Kerby et al., "hereinafter Kerby", (US Pat. 5,258,567), as applied to claims 1-2, 5-8, 10-13, & 28 above, and further in view of Hamner (US Pat. 4,212,771).

Zimmermann discloses a catalyst (as described above) in combination with the magnesium and alkali metal components incorporated, which is disclosed by Kerby as discussed above (see the precedent paragraph), except for the carrier properties.

It would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have utilized such known carrier in Zimmermann because it is known as useful catalyst carrier, as evidenced by Hamner (see Hamner at col. 2, ln 41-61, col. 3, ln 24-27, & col. 6, Table I).

#### **Response to Applicants' Arguments**

10. Applicants' amendment and response filed on June 06, 2005 has been fully reconsidered, but not deemed persuasive in view of the new ground of rejection above.

#### **Conclusion**

11. Claims 1-8, 10-13, 15-20, 24, & 27-28 are pending. Claims 1-8, 10-13, 15-20, 24, & 27-28 are rejected. No claims are allowed.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone number is 571-272-1357. The examiner can normally be reached on M, W, R, & F, 9:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone



Art Unit: 1754

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen/cnn *Cnn*  
August 18, 2005

*Cam Nguyen*  
CAM N. NGUYEN  
PRIMARY EXAMINER  
*AV-1754*